

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	25	(detect\$3 adj5 "angular position") and "back electromotive force"	USPAT	OR	ON	2005/04/15 11:00
S2	402	sensorless and brushless and motor	USPAT	OR	ON	2005/04/15 11:14
S3	367	S2 and method	USPAT	OR	ON	2005/04/15 11:19
S4	115	S2 and "zero crossing"	USPAT	OR	ON	2005/04/15 12:38
S5	109	S3 and "zero crossing"	USPAT	OR	ON	2005/04/15 11:20
S6	63	S4 and counter	USPAT	OR	ON	2005/04/15 12:54
S7	3	((("4492903") or ("5506487") or ("5663618")).PN.	USPAT; USOCR	OR	OFF	2005/04/19 07:12
S8	0	S2 and "up/down adj5 count\$3"	USPAT	OR	ON	2005/04/15 13:29
S9	4	S2 and up/down and count\$3	USPAT	OR	ON	2005/04/15 13:29
S10	23	(US-4874993-\$ or US-5306988-\$ or US-5317243-\$ or US-5384527-\$ or US-5616996-\$ or US-5764020-\$ or US-5929577-\$ or US-6023141-\$ or US-6229274-\$ or US-6483266-\$ or US-6504328-\$ or US-6512342-\$ or US-6534938-\$ or US-6541928-\$ or US-6555977-\$ or US-6570351-\$ or US-6590843-\$ or US-6598000-\$ or US-6650082-\$ or US-6653805-\$ or US-6686714-\$ or US-6859000-\$ or US-6879124-\$).did.	USPAT	OR	ON	2005/04/18 12:46
S12	7	("4431953"   "4874993"   "5130620").PN. OR ("5764020").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 13:06
S13	17	("4752724"   "4874993"   "5177416"   "5221881"   "5233275"   "5317243").PN. OR ("5616996").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 13:50
S14	311	brushless and "zero crossing" and counter	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 15:34
S15	223	S14 and @py<"2002"	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 15:37
S16	223	S15 and zero	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 15:37
S17	192	S15 and up	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 15:38

## EAST Search History

S18	142	S15 and down	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 15:43
S19	129	S15 and increment\$3	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 15:44
S20	118	S15 and (incrementing or incremented or increment)	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 15:47
S21	112	S20 and (not byte pattern)	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 15:48
S22	98	S20 and (not "byte pattern")	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/18 15:48
S23	1	("5969491").PN.	USPAT; USOCR	OR	OFF	2005/04/19 07:12
S25	16	("4364004"   "4922169").PN. OR ("5969491").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/19 07:35
S26	44	(US-20040070356-\$ or US-20040080293-\$ or US-20040085039-\$ or US-20040131342-\$ or US-20040135530-\$ or US-20040150362-\$ or US-20040223251-\$).did. or (US-4752724-\$ or US-4874993-\$ or US-5130620-\$ or US-5221881-\$ or US-5306988-\$ or US-5317243-\$ or US-5384527-\$ or US-5616996-\$ or US-5764020-\$ or US-5808436-\$ or US-5929577-\$ or US-6023141-\$ or US-6084364-\$ or US-6107763-\$ or US-6163120-\$ or US-6229274-\$ or US-6242875-\$ or US-6424106-\$ or US-6483266-\$ or US-6504328-\$ or US-6512342-\$ or US-6534938-\$ or US-6541928-\$ or US-6555977-\$ or US-6570351-\$ or US-6590843-\$). did. or (US-6598000-\$ or US-6650082-\$ or US-6653805-\$ or US-6686714-\$ or US-6850022-\$ or US-6859000-\$ or US-6879124-\$ or US-5969491-\$ or US-6512341-\$ or US-6081091-\$ or US-4922169-\$). did.	US-PGPUB; USPAT	OR	ON	2005/04/19 11:37
S27	37	(bi-directional adj5 counter)same difference	US-PGPUB; USPAT	OR	ON	2006/04/11 08:20

## EAST Search History

S28	1	S27 and "counting window"	US-PGPUB; USPAT	OR	ON	2005/04/19 11:15
S29	4	S27 and symmetrical	US-PGPUB; USPAT	OR	ON	2005/04/19 11:15
S30	0	(bi-directional adj5 counter)same "counting window"	US-PGPUB; USPAT	OR	ON	2005/04/19 11:20
S31	151	"counting window"	US-PGPUB; USPAT	OR	ON	2005/04/19 11:23
S32	33575	(up and down)same counter	US-PGPUB; USPAT	OR	ON	2005/04/19 11:25
S33	13153	S32 and comparator	US-PGPUB; USPAT	OR	ON	2005/04/19 11:25
S34	9864	S33 and zero	US-PGPUB; USPAT	OR	ON	2005/04/19 11:26
S35	8	S31 and S34	US-PGPUB; USPAT	OR	ON	2005/04/19 11:33
S36	132	expected adj5 "zero crossing"	US-PGPUB; USPAT	OR	ON	2005/04/19 11:33
S37	369526	"44" and frequency	US-PGPUB; USPAT	OR	ON	2005/04/19 11:38
S38	31	S26 and frequency	US-PGPUB; USPAT	OR	ON	2005/04/19 11:59
S39	16	S26 and polarity	US-PGPUB; USPAT	OR	ON	2005/04/19 12:01
S40	13	S26 and polarity and counter	US-PGPUB; USPAT	OR	ON	2005/04/19 12:03
S41	13	S26 and polarity and counter and zero	US-PGPUB; USPAT	OR	ON	2005/04/19 12:12
S42	23	S26 and up and down	US-PGPUB; USPAT	OR	ON	2005/04/19 12:19
S43	4	S26 and estimate	US-PGPUB; USPAT	OR	ON	2005/04/19 12:36
S44	16	S26 and enable	US-PGPUB; USPAT	OR	ON	2005/04/19 13:41
S45	11	"true position" and rotor and brushless	US-PGPUB; USPAT	OR	ON	2005/04/19 14:08
S46	6086	position and rotor and brushless	US-PGPUB; USPAT	OR	ON	2005/04/19 14:08
S47	3830	S46 and method	US-PGPUB; USPAT	OR	ON	2005/04/19 14:09
S48	3747	S47 and motor	US-PGPUB; USPAT	OR	ON	2005/04/19 14:09
S49	1947	S48 and zero	US-PGPUB; USPAT	OR	ON	2005/04/19 14:10

## EAST Search History

S50	889	S49 and counter	US-PGPUB; USPAT	OR	ON	2005/04/19 14:13
S51	0	S50 and "rotor adj5 positions"	US-PGPUB; USPAT	OR	ON	2005/04/19 14:14
S52	0	S50 and "rotor adj5 position"	US-PGPUB; USPAT	OR	ON	2005/04/19 14:14
S53	272	S50 and crossing	US-PGPUB; USPAT	OR	ON	2005/04/19 14:49
S54	13	S53 and bi-directional	US-PGPUB; USPAT	OR	ON	2005/04/19 14:53
S55	1766	"272" and up/down	US-PGPUB; USPAT	OR	ON	2005/04/19 14:54
S56	30	S53 and up/down	US-PGPUB; USPAT	OR	ON	2005/04/19 14:54
S57	34	(US-20040070356-\$ or US-20040080293-\$ or US-20040085039-\$ or US-20040131342-\$ or US-20040135530-\$ or US-20040150362-\$ or US-20040223251-\$).did. or (US-4376970-\$ or US-4752724-\$ or US-4874993-\$ or US-4922169-\$ or US-5130620-\$ or US-5221881-\$ or US-5306988-\$ or US-5317243-\$ or US-5384527-\$ or US-5469112-\$ or US-5506487-\$ or US-5616996-\$ or US-5717298-\$ or US-5764020-\$ or US-5969491-\$ or US-6023141-\$ or US-6081091-\$ or US-6163120-\$ or US-6229274-\$ or US-6242875-\$ or US-6424106-\$ or US-6504328-\$ or US-6534938-\$ or US-6590843-\$ or US-6598000-\$ or US-6850022-\$). did. or (US-6879124-\$).did.	US-PGPUB; USPAT	OR	ON	2005/04/21 07:09
S58	1	("5672948").PN.	USPAT; USOCR	OR	OFF	2006/04/10 09:12
S59	12	("5306988").PN. OR ("5672948"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/04/10 12:04
S60	37	(bi-directional adj5 counter)same difference	US-PGPUB; USPAT	OR	ON	2006/04/11 08:20